

CSA STANDARD F280-12 COMPLIANCE			CSA F280-12 Form Set Ver 24.10	
NBC 2015: 9.33.5.1.; 9.36.3.2. & 9.36.5.15; NBC 2020; 9.33.5.1.; 9.36.3.2.; 9.36.5.15 (5); 9.36.8.9. (1);				
These documents issued for the use of BC MINISTRY OF HOUSING			PROJECT #	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.			1 TPLX1-U2-WEST 2	
BUILDING LOCATION				
Model:	TPLX-01-UNIT 2	3	Site:	WEST
Address:		4	Lot:	
City & Province:	PRINCE RUPERT, BC	5	Postal Code:	
COMPLIANCE (See page 2 for input summary and page 3 for room by room values)				
Submittal is for:		☐ Whole house	☒ Room by Room	Units: ☒ Imperial ☐ Metric
HEATING				
Minimum Heating Capacity:		10,728	BTUH (total building heat loss as per 5.2.7)	
5.3.1	The total heat output capacity of all heating systems installed in a building shall not be less than 100% of the total building heat loss as determined in Clause 5.2.7.			
5.3.2	The combined heating delivery of the heating systems that serve a room or space shall not be less than 100% of the space heat loss , as determined in Clause 5.2.6.. (If room by room submittal, see page 2 for individual space heating requirements)			
COOLING				
Nominal Cooling Capacity:		9,088	BTUH (Nominal Cooling Capacity as per 6.3.1)	
Minimum Cooling Capacity:		7,271	BTUH	Maximum Cooling Capacity:
		11,360	BTUH	
6.3.2	Except as provided in Clause 6.3.3., the cooling system capacity shall not be less than 80% of the nominal cooling capacity for the building, as determined in Clause 6.3.1.. In no case shall it be less than the nominal cooling capacity of the building minus 1800 W (0.51 tons)			
6.3.3	Where the cooling system is added to an existing heating system, it's capacity in Watts shall not exceed 18 times the capacity of the air-handling capacity of the existing system in L/s. (Cooling capacity in Tons not more than 1.0 per 400 CFM of air handling capacity)			
6.3.4	Except for ground-source and water source heat pumps used for cooling, and as permitted in Clause 6.3.5, the installed cooling capacity shall not exceed 125% of the nominal cooling capacity for the building, as determined in Clause 6.3.1.			
6.3.5	If the nominal cooling system capacity for the building, as determined in Clause 6.3.1. is less than 6,000 W (1.7 tons), the installed cooling system capacity may exceed the nominal cooling system capacity for the building by up to 1750 W (0.49 tons).			
ATTACHED DOCUMENTS				
☒ Design Summary		☒ Room by Room Results		Other:
Other:				
Notes:				
CALCULATIONS PERFORMED BY				
Name:	TODD BACKUS	55	Designers Signature, Stamp Imprint or other certification mark	
Company:	TECA	56		
Address:	PO BOX 73105, EVERGREEN RO	57		
City & Prov.:	SURREY, BC	58		
Postal Code:	V3R 0J2	59		
Phone:	604-594-5956	60		
Fax:	-	61		
E-mail:	TBACKUS@TECA.CA	62		
			I, _____	
			have reviewed and take responsibility for the design work described in this document & I am qualified in the appropriate categories. 63	
			Accreditation Reference 1	64
			Accreditation Reference 2	65
			Issued for: (date)	66
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TECA HEAT LOSS & HEAT GAIN CALCULATOR

HVAC DESIGNERS OF CANADA
VERIFIED F280 SOFTWARE

CSA F280-12 INPUT SUMMARY						CSA F280-12 Form Set Ver 24.10	
These documents issued for the use of <u>BC MINISTRY OF HOUSING</u>						PROJECT #:	
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BUILDING LOCATION							
Model: TPLX-01-UNIT 2		Site: WEST		Lot:			
Address:		City/ Prov: PRINCE RUPERT, BC		Post. Code:			
CALCULATION BASED ON (See Following Page For Results)							
Dimensional Info Based On:		drawings done by: Leckie Studio Architecture + Design Inc.					
Attachment: Single Unit in Multi-Unit Building (stacked dwelling units)		Front Facing: W		Assumed?		Yes	
# of Stories: 3 (4 total floors)		Air Tightness: 1.5		Assumed?		Yes	
Weather Location: Prince Rupert		Internal Shading: No		Assumed?		Yes	
Wind Exposure, Site: Low crops, x/H > 20		Occupants: 3		Assumed?		Yes	
Wind Sheltering, Building: Light local shielding		Ventilated? Non-dedicated HRV		HRV/ERV?		Yes	
Units: ☒ Imperial ☐ Metric		HRV ASE %: 65%		HRV ATRE %:		0%	
HEATING DESIGN CONDITIONS				COOLING DESIGN CONDITIONS			
Outdoor Temp: -13°C, 8.6°F		Indoor Temp: 22°C, 71.6°F		Mean Soil Temp: 10°C, 50°F		Outdoor Temp: 19°C, 66.2°F	
Soil Cond. Normal conductivity: dry sand, loam, clay		Water Table Depth: Normal (7-10m, 23-33ft)		Slab Fluid Temp: None		Range: 6°C, 42.8°F	
Indoor Temp: 24°C, 75.2°F				Latitude: 54.32			
ABOVE GRADE WALLS				BELOW GRADE WALLS			
ID 1: 1/ (TYP. EXT. WALL: R-22), inside wall, // 1/2" GWB, // framing w/ cavity insulation: softwood (default), 2x6 framing @ 16"OC, R20 (5.5"), // Sheathing materials, Softwood plywood, // Insulation, Mineral wool and glass fibre, // Cladding materials, Vinyl siding, outside air; 22.42R-VALUE				ID 1:			
FLOOR HEADERS				CEILINGS			
ID 1: 1/ (TYP. HEADER: R-22); 22R-VALUE				ID 1: 1/ (TYP. ROOF: R-32), inside ceilings, // 1/2" GWB, // framing w/ cavity insulation: softwood (default), 2x6 framing @ 24"OC, custom insulation, // Sheathing materials, Softwood plywood, // Roofing materials, Built-up roofing, outside air; 32.01R-VALUE			
WINDOWS				EXPOSED FLOORS			
ID 1: 1/ (Windows (Energy Modelling Requirements)) custom, USI: 1.3, SHGC: 0.25				ID 1: 1/ (TYP. EXPOSED FLOOR), inside floor, // Finished floor w/ underlay, // 3/4" ply, // framing w/ cavity insulation: softwood (default), 2x12 joists @ 16"OC, R35 (9.25") // Exterior finished material // outside air: 30.98R-VALUE			
SKYLIGHTS				DOORS			
ID 1: 1/ (SKYLIGHT) double glazed, Fixed — Wood/Vinyl, insulating, low-E, 13mm Air, USI: 1.96, SHGC: 0.47				ID 1: 1/ (EXT. DOOR) Insulated metal — Polyurethane core, without storm door, USI: 0.91			
FOUNDATIONS							
ID 1: 1/ [Heated Crawlpace] Concrete Slab & Walls, insulation: below slab = 2.64RSI, interior wall = 2.11RSI, exterior wall = 2.11RSI (configuration #69) // any first storey construction type, interior surface of wall insulated over full-height, exterior surface of wall insulated over full-height, sub-surface of floor slab fully insulated but no insulation							
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Model: TPLX-01-UNIT 2			3 Site: WEST		6	
Address:			4 Lot:		7	
City & Province: PRINCE RUPERT, BC			5 Postal Code:		8	
CALCULATION RESULTS - ROOM BY ROOM (BTUH)						
#	ROOM NAME	71	HEATING	72	TOTAL COOLING	73
1	(#1)HEATED CRAWL-U2		1,510		0	
2	(#2)110-ENTRY		1,801		0	
3	(#3)200-KITCHEN		1,875		3,349	
4	(#4)201-LIVING		1,860		3,349	
5	(#5)300-LANDING		1,256		997	
6	(#6)301-WASHROOM		85		26	
7	(#7)302-BEDROOM 1		1,651		991	
8	(#8)303-BEDROOM 2		691		378	
Ventilation Loss (if separate):		1,065	BTUH	74	Latent Gain (if separate, value or multiplier):	2,097 BTUH 75
Total Building Heat Loss (5.2.7):		10,728	BTUH		Nominal Cooling System Capacity (6.3.1):	9,088 BTUH
See page 1 for heating & Cooling System Capacity Limits				Issued: August 22, 2025	76	Page: 3 of 3
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